

THREE COMMON SPECIES OF AURICULARIA

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1. *Auricularia Auricula* (L.) Underwood, Mem. Torrey Club

12: 15. 1902

Tremella Auricula L. Sp. Pl. 1157. 1753.

Peziza Auricula L. Syst. Nat. ed. 12, 2: 725. 1767.

Merulius auricula Roth. Germ. 1: 535. 1788.

Peziza Auricula-Judae Bull. Champ. 1: 241. 1791.

Tremella Auricula Judae Pers. Obs. Myc. 2: 93. 1799.

Auricularia sambucina Mart. Fl. Crypt. Erl. 459. 1817.

Exidia Auricula Judae Fr. Syst. 2: 221. 1822.

Auricularia ampla Pers. in Freyc. Voy. 177. 1826.

Exidia auricula Wallr. Fl. Crypt. 2: 559. 1833.

Exidia ampla Lév. Ann. Sci. Nat. Bot. III. 5: 159. 1846.

Hirneola auricula-Judae Berk. Outl. 289. 1860.

Hirneola ampla Sacc. Syll. 6: 765. 1888.

Auricularia Auricula Judae Schröt. Krypt. Fl. Schles. 3: 386. 1889.

Auricula Judae Kuntze, Rev. Gen. 2: 844. 1891.

Auricula ampla Kuntze, Rev. Gen. 2: 844. 1891.

Erumpent, single or cespitose; at first peziza-form, then becoming erect and foliaceous, much twisted, slightly ear- or shell-shaped, one or several lobed, sessile or substipitate, up to 12 cm. in height; thin gelatinous, trembling when moist; sterile surface curling over hymenium, red-brown when moist, yellowish-brown to olive-brown when dry, when young glaucous, when older ashy, pruinose with fine short hairs, irregularly veined, sometimes appearing quilted; hymenium when moist red-brown like coffee jelly, smooth, undulating but not folded or wrinkled; hymenium when dry or old becoming almost black, shining, or dull with a white bloom, sometimes folded according to manner of drying; spores typical of the genus, 11-14 \times 5-6 μ .

HABITAT: Dead wood of various kinds.

DISTRIBUTION IN NORTH AMERICA: Wide. Specimens were examined from various parts of Canada, Maine, New Hampshire,

Connecticut, New York, New Jersey, Pennsylvania, Maryland, District of Columbia, Virginia, West Virginia, South Carolina, Georgia, Alabama, Louisiana, Arkansas, Missouri, Tennessee, Ohio, Indiana, Iowa, Minnesota, Kansas, Colorado, Montana, the West Indies, and the Philippines. It is reported also from Massachusetts, North Carolina, Texas, Nebraska, and California.

EXSICCATI: There are specimens in most of the usual European and American exsiccati.

ILLUSTRATIONS: Hussey, Ill. Brit. Myc. *pl.* 53; Eng. Bot. cd. 1: 2447; Berk. Outl. *pl.* 18, *f.* 7; Cooke, Handbook, *f.* 97; Bolt. Hist. Fungi, 2: *pl.* 107; Batt. Fung. Agri. *pl.* 3, *f.* F; Sterb. Theat. *pl.* 27, *f.* H; Mich. Nov. Gen. *pl.* 66, *f.* 1; Blackw. Herball, *pl.* 334; Marshall, Mushroom Book, 116; Brefeld, Unters. 7: *pl.* 4, *f.* 3, 4.

This fungus is the well-known Jew's ear or Judas' ear, which was described under that name at least as far back as the end of the sixteenth century. Since that time it has had perhaps three times as many names as the above list of synonyms would seem to indicate. Undoubtedly many even of the comparatively recently described species of *Auricularia* will eventually be referred back to this species.

Such multiplication of names is of course due to the wide distribution of the Judas' ear, to its ability to grow upon many different kinds of decaying wood, and to its great variation in size, color and shape. Young specimens are usually not only smaller, but lighter in color and smoother. Gradations in this respect were admirably shown by one set of specimens from Jamaica (No. 1123, Mrs. N. L. Britton Coll., Oct. 4, 1908). Then too, in a fungus of which about 80 per cent. is water (Weems & Hess in Proc. Soc. Prom. Agr. Sci 23: 167. 1902) the method of drying will affect its appearance, and may lead to confusion unless specimens to be determined are soaked with water until they regain their original condition.

The chief interest of the Jew's ear for the botanists of the seventeenth and eighteenth centuries seems to have lain in the question of its edibility. Gerarde (Herball, 1385. 1597) says: "the Mushrooms or Toadstooles which grow upon the trunks or bodies of old trees, verie much resembling Auricula Iudae, that

is Iewes' eare . . . are all thought to be poisonous being inwardly taken." L'Ecluse (Hist. Rar. Pl. 4: 276. 1601) although naming it "genus 1. perniciosum fungorum" says that it may be used in cases of sore throat for gargling and rinsing. Parkinson (Theat. 1320. 1640) states positively that it must be edible, because it may be "boyled in milke, or steeped in vinegar and so gargled, which is the onely use they are put unto that I know." The final word on the subject has been given recently by Weems and Hess in the article quoted above. They state its composition when moist to be: water 79.58 per cent., ether extract .25 per cent., crude fiber .59 per cent., protein 3.83 per cent., ash 1.04 per cent., nitrogen free extract 14.71 per cent. Its fuel value per lb. in calories is 355.10.

It is altogether probable that *Auricularia auriformis* (Schw.) Earle is the same fungus. The only difference seems to be in the yellow color on both surfaces of *A. auriformis*, due in the case of the hymenium to nodules of gelatine, and on the sterile surface to the hairs. Specimens from various localities in New Jersey and Alabama were examined, and the fungus is reported also from Massachusetts, Virginia, North Carolina (type), Ohio, and Porto Rico. The Wright specimen from Cuba is, as stated by Farlow (Bib. Index 1: 306. 1905), not *A. auriformis* but *A. Auricula*.

If these two fungi prove to be the same the following synonyms should be added to those of *A. Auricula*:

Peziza auriformis Schw. Syn. Carol. no. 1155. 1818.

Exidia auriformis Fr. Syst. 2: 223. 1822.

Tremella auriformis Spreng. in L. Syst. Veg. ed. 16. 4: 535. 1827.

Exidia protracta Lév. Ann. Sci. Nat. III, 2: 218. 1844.

Hirneola auriformis Fr. Fung. Nat. 26. 1848.

Hirneola protracta Sacc. Syll. 6: 766. 1888.

Auricularia auriformis Kuntze, Rev. Gen. 2: 844. 1891.

Auricularia protracta Kuntze, Rev. Gen. 2: 844. 1891.

Auricularia auriformis Earle in Mohr, Contrib. U. S. Nat. Herb. 6: 194. 1901.

2. *Auricularia nigrescens* (Sw.) Farl. Bib. Index, 1: 308. 1905*Peziza nigrescens* Sw. Prod. 150. 1788.*Peziza nigricans* Sw. Fl. Ind. Occ. 3: 1938. 1806.*Exidia purpurascens* Jungh. Praem. 25. 1838.*Exidia hispidula* Berk. Ann. Nat. Hist. I. 3: 396. 1839.*Exidia polytricha* Mont. Pl. Cell. Cuba, 365. 1841.*Hirneola nigra* Fr. Fung. Nat. 27. 1848.*Hirneola polytricha* Fr. Nov. Act. Roy. Soc. Sci. Upsal. III., 1: 117. 1855.*Hirneola hispidula* Berk. Jour. Linn. Soc. 14: 352. 1874.*Auricularia polytricha* Sacc. Misc. 2: 12. 1885.*Auricula hispidula* Kuntze, Rev. Gen. 2: 844. 1891.*Auricula nigra* Kuntze, Rev. Gen. 2: 844. 1891.*Auricula polytricha* Kuntze, Rev. Gen. 2: 844. 1891.*Auricularia nigra* Earle, Bull. Torrey Club 26: 633. 1899.*Auricularia hispidula* Farl. Bib. Index 1: 307. 1905.

Leathery-gelatinous, peziza-shaped at first, becoming cup- or ear-shaped, or foliaceous, erect, sessile, or slightly stipitate, one or several lobed, up to 10 cm. in diameter, tough even when moist; sterile surface external in cup forms, superior in foliaceous forms, densely tomentose with hairs longer than those of *A. Auricula*, red-brown when moist, becoming usually light gray or tan when dry resembling chamois, but sometimes red-brown or almost black when old, not usually wrinkled but sometimes appearing quilted, usually pleated near place of attachment, zoneless, margin frequently turned under; hymenium interior or inferior, red-brown, becoming black when dry, usually smooth, sometimes papillate; spores typical of the genus, $14-15 \times 5-7 \mu$.

TYPE LOCALITY: Jamaica.

HABITAT: On dead wood.

DISTRIBUTION IN NORTH AMERICA: Alabama, southern Florida and the tropics.

This plant differs from *A. Auricula* in its tougher texture, longer and lighter hairs, and unwrinkled sterile surface. There are two common forms which most writers have considered separate species: *A. nigra*, forming cups; and *A. polytricha*, spreading into lobes. Montaigne (Pl. Cell. Cuba, 365. 1841) notes that young specimens are cup-shaped at first, and then expand. This

fact was exemplified in several of the collections examined, in one of which (Cuba, Earle & Murrill 102) little cups were seen growing from old ear-shaped pieces. Furthermore, comparatively few of the *A. nigra* forms showed spores, thus indicating that the plants were probably immature. The spores when present were like those of *A. polytricha*.

3. **Auricularia mesenterica** (Dicks.) Pers. Myc. Eur. 1: 97. 1822

Helvella mesenterica Dicks. Crypt. 1: 20. 1785.

Helvella tremellina Sw. Prod. 149. 1788.

Thaelaephora mesenterica Gmel. Syst. Nat. II., 2: 1440. (1792.)

Merulius mesentericus Schrad. Sp. 138. 1794.

Thelephora tremellina Sw. Fl. Ind. Occ. 1935. 1806.

Auricularia ornata Pers. in Freyc. Voy. 177. pl. 2, f. 4. 1826.

Auricularia lobata Sommerf. in Mag. Nat. Vidensk. 1827.

Phlebia mesenterica Fr. El. 154. 1828.

Patila mesenterica Kuntze, Rev. Gen. 2: 864. 1891.

Patila lobata Kuntze, Rev. Gen. 2: 864. 1891.

Tough, not swelling much with moisture, when young peziza-like with hairy margin, becoming resupinate or shelving, attached posteriorly but not stipitate, up to 15 cm. in length, 11 cm. in breadth, and 4 mm. in thickness; upper surface sterile, wholly or partly tomentose in distinct zones of light- and dark-brown or red shading to greenish or tan at the edge, sometimes showing bare zones, margin usually in rounded lobes, frequently turned under; hymenium inferior, red-brown, becoming almost black when dry, when mature wrinkled like a mesentery, often frosted or covered with a yellow bloom; spores typical of the genus, 10-12 \times 5-6 μ .

TYPE LOCALITY: For *Helvella tremellina* Sw., Jamaica.

HABITAT: On dead and decaying wood.

DISTRIBUTION IN NORTH AMERICA of specimens examined: West Indies, Central America, and the Philippines. It is reported also from Maine, Massachusetts, Rhode Island, and North Carolina.

EXSICCATI: Cavara, Fungi Longob. 12; Roum. Fungi Sel. 7203; Moug. & Nestl. Stirp. Crypt. Vog.-Rhen. 492; Rab.-Winter Fung. Eur. 3132.

ILLUSTRATIONS: Hussey, Ill. Brit. Myc. 2: pl. 6; Mich. Gen. pl. 66, f. 4.

A. mesenterica resembles a *Stereum*. It differs from *A. nigrescens* in having zones and a wrinkled hymenium. The hairs, too, are longer and darker in color, and the whole plant lies closer to the surface from which it grows. The form having mixed bare and hairy zones was formerly called *A. lobata*. Among the specimens examined, however, were several which showed both the hairy and the mixed zones in the same collection, thus confirming the theory of Montagne (Pl. Cell. Cuba 373. 1841) and of others, that they belong to the same species.

A. tremelloides Bull. (Champ. pl. 290. 1786) is often considered a synonym, but the illustration shows a crater-like form with alveolate folds on the outside. If this, however, is *A. mesenterica*, it and its dependent species, *A. corrugata* (Relh.) Sowerb. (Brit. Fung. pl. 290. 1803) and *Tremellidium tremelloides* (Bull.) Chev. (Fl. Gen. 1: 92. 1826) should be added to the above list.

SUMMARY

Auricularia Auricula (L.) Underwood includes forms sometimes known as *A. sambucina* Mart. and as *A. ampla* Pers. Probably *A. auriformis* (Schw.) Earle and possibly half a dozen other foliaceous species also belong here. *A. Auricula* differs from *A. nigrescens* in possessing a thinner texture, shorter and darker hairs, and veins upon the sterile side. As compared with *A. mesenterica* it is foliaceous rather than resupinate or shelving, is much thinner, has fewer and shorter hairs and is zoneless.

A. nigrescens (Sw.) Farlow comprises *A. nigra* (Fries) Earle (cup-shaped) and *A. polytricha* (Mont.) Sacc. (lobed) besides the less known species of *Exidia purpurascens* Jungh. and *A. hispidula* (Berk.) Farlow. It differs from *A. mesenterica* in its absence of zones, in its shorter and lighter hairs, in its smooth hymenial surface, and in its more expanded shape.

A. mesenterica (Dicks.) Pers., *A. lobata* Sommerf., and *A. ornata* Pers. are the same species, and it is probable that *A. tremelloides* Bull. and *A. corrugata* (Relh.) Sowerb. also belong here.

The collections examined are those in the herbarium of the New York Botanical Garden. Most of them were obtained recently from the tropical portions of this country, but there are specimens from foreign exsiccati also, and from other places in North America which have been noted above.

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